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(54) ATTACHABLE/DETACHABLE ATTACHMENT FOR MONITOR FOR PORTABLE  
EQUIPMENT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a compact device for reducing external light on the periphery of the screen of an LCD.

SOLUTION: With the constitution of an intermediate member attached to the vicinity of the monitor of portable equipment, and a light shielding attachable/detachable

attachment member for a monitor attached to/detached from the intermediate member in specified positional relation; the position of the intermediate member is decided and the attachment/detachment of the attachable/detachable attachment member for the monitor is accurately achieved. Furthermore, miniaturization is attained by foldable structure using an enlarging lens.

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#### **CLAIMS**

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[Claim(s)]

[Claim 1] Attachment-and-detachment type attachment for monitors of the pocket device which has a removable attached member by position relation in the pars intermedia material which can be pasted up near the monitor and its pars intermedia material of a pocket device.

[Claim 2] Said attached member is the attachment-and-detachment type attachment for monitors according to claim 1 which has elasticity, and can detach and attach said attached member and said pars intermedia material with this elasticity.

[Claim 3] Attachment-and-detachment type attachment for monitors according to claim 1 whose jointing to the pocket device of said pars intermedia material is a double-sided tape.

[Claim 4] Attachment-and-detachment type attachment for monitors according to claim 1 with which said pars intermedia material is divided into plurality.

[Claim 5] Attachment-and-detachment type attachment for monitors according to claim 4 in which said attached member has the positioning section at the time of pars intermedia material adhesion.

[Claim 6] Attachment-and-detachment type attachment for monitors according to claim 4 in which it has the member which can furthermore be detached and attached to said attached member, and the member has the positioning section at the time of said pars intermedia material adhesion.

[Claim 7] Said attached member is the attachment-and-detachment type attachment for monitors according to claim 4 which has a removable member with pars intermedia material with elasticity, and can detach and attach said attached member and said pars intermedia material using this elasticity.

[Claim 8] Attachment-and-detachment type attachment for monitors according to claim 1 with which said attached member has a magnifying lens and protection-from-light structure.

[Claim 9] Attachment-and-detachment type attachment for monitors according to claim 8 with said magnifying lens removable to said attached member.

[Claim 10] Said attached member is the attachment-and-detachment type attachment for monitors with opening a monitor panel appears with distance of distinct vision from the monitor panel of a pocket device when said magnifying lens is removed according to claim 9.

[Claim 11] Attachment-and-detachment type attachment for monitors according to claim 1 with which said attached member has cover glass.

[Claim 12] Attachment-and-detachment type attachment for monitors of a pocket device movable between the operating locations and \*\*\*\* locations which turn into a monitor side and a position while being able to detach and attach near the monitor of a pocket device.

[Claim 13] Attachment-and-detachment type attachment for monitors according to claim 12 set up so that it may become position relation to a monitor side also at the time of \*\*\*\*.

[Claim 14] Attachment-and-detachment type attachment for monitors according to claim 12 which has a removable attached member by position relation in the pars intermedia material which can be pasted up near the monitor and its pars intermedia

material of a pocket device.

[Claim 15] Said attached member is the attachment-and-detachment type attachment for monitors according to claim 14 which has elasticity, and can detach and attach said attached member and said pars intermedia material with this elasticity.

[Claim 16] Said attached member is the attachment-and-detachment type attachment for monitors according to claim 14 which has a removable member with pars intermedia material with elasticity, and can detach and attach said attached member and said pars intermedia material using this elasticity.

[Claim 17] Attachment-and-detachment type attachment for monitors of the pocket device which has a polarizing filter while being able to detach and attach near the monitor of a pocket device.

[Claim 18] Furthermore, a magnifying lens and attachment-and-detachment type attachment for monitors according to claim 17 which has protection-from-light structure.

[Claim 19] Said polarizing filter is attachment-and-detachment type attachment for monitors according to claim 18 which adjoins a magnifying lens and is arranged between the magnifying lens and the pocket device.

[Claim 20] Attachment-and-detachment type attachment for monitors according to claim 18 with said removable magnifying lens and polarizing filter.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[The technical field to which invention relates] This invention relates to the protection from light to the outpatient department light to the monitor in pocket devices, such as a digital camera.

[0002]

[Description of the Prior Art] There is a digital camera equipped with the taking lens and the solid state image sensor (CCD:Charge Coupled Device), and there is a camera equipped with the viewfinder by the time of photography by the liquid crystal display (LCD:Liquid Crystal Display) and the LCD screen of the monitor combination at the time of image reconstruction further. Since a screen stops such a LCD screen of a

camera being able to be visible easily due to outpatient department light, he is trying to form the equipment for mitigating the outpatient department light around the LCD screen.

[0003]

[Problem(s) to be Solved by the Invention] It is in offering the small equipment for mitigating the outpatient department light around a LCD screen.

[0004]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, invention according to claim 1 provides the pars intermedia material which can be pasted up near the monitor and its pars intermedia material of a pocket device with the attachment-and-detachment type attachment for monitors of the pocket device which has a removable attached member by position relation. According to this invention, a pars intermedia material location is determined and attachment and detachment of the attached member for protection from light can be finished exactly.

[0005] Said attached member has elasticity and invention according to claim 2 offers the attachment-and-detachment type attachment for monitors according to claim 1 which can detach and attach said attached member and said pars intermedia material with this elasticity. According to this invention, a pars intermedia material location is determined and attachment and detachment of an attached member can be finished exactly.

[0006] Invention according to claim 3 offers the attachment-and-detachment type attachment for monitors according to claim 1 whose jointing to the pocket device of said pars intermedia material is a double-sided tape. According to this invention, it can remove to remove pars intermedia material. Invention according to claim 4 offers the attachment-and-detachment type attachment for monitors according to claim 1 with which said pars intermedia material is divided into plurality. According to this invention, pars intermedia material can be miniaturized.

[0007] Invention according to claim 5 offers the attachment-and-detachment type attachment for monitors according to claim 4 in which said attached member has the positioning section at the time of pars intermedia material adhesion. According to this invention, the location of pars intermedia material is determined and attachment and detachment of an attached member can be finished exactly. Invention according to claim 6 offers the attachment-and-detachment type attachment for monitors according to claim 4 in which it has the member which can be further detached and attached to said attached member, and the member has the positioning section at the time of said pars intermedia material adhesion. According to this invention, the location of pars intermedia material is determined and attachment and detachment of an attached member can be finished exactly.

[0008] Said attached member has a removable member with pars intermedia material with elasticity, and invention according to claim 7 offers the

attachment-and-detachment type attachment for monitors according to claim 4 which can detach and attach said attached member and said pars intermedia material using this elasticity. According to this invention, a pars intermedia material location is determined and attachment and detachment of an attached member can be finished exactly.

[0009] Invention according to claim 8 offers the attachment-and-detachment type attachment for monitors according to claim 1 with which said attached member has a magnifying lens and protection-from-light structure. According to this invention, protection from light can be finished exactly and equipment can be miniaturized. Invention according to claim 9 offers the attachment-and-detachment type attachment for monitors according to claim 8 with said magnifying lens removable to said attached member. According to this invention, protection from light can be exactly finished at the time of magnifying lens wearing, and when a magnifying lens is removed, protection from light of a light [ obtuse angle / panel / monitor ] can be finished.

[0010] Invention according to claim 10 offers the attachment-and-detachment type attachment for monitors according to claim 9 in which said attached member has opening a monitor panel appears with distance of distinct vision from the monitor panel of a pocket device when said magnifying lens is removed. According to this invention, when a magnifying lens is removed, protection from light of a light [ obtuse angle / panel / monitor ] can be finished. Invention according to claim 11 offers the attachment-and-detachment type attachment for monitors according to claim 1 with which said attached member has cover glass. According to this invention, protection to the external force of a monitor panel can be performed.

[0011] Invention according to claim 12 offers the attachment-and-detachment type attachment for monitors of a movable pocket device between the operating locations and \*\*\*\* locations which turn into a monitor side and a position while being able to detach and attach it near the monitor of a pocket device. According to this invention, it is usable at a position at the time of use, and can miniaturize at it at the time of \*\*\*\*.

[0012] Invention according to claim 13 offers the attachment-and-detachment type attachment for monitors according to claim 12 set up so that it may become position relation to a monitor side also at the time of \*\*\*\*. According to this invention, at the time of \*\*\*\*, it is usable at a position at the time of use, and it can be miniaturized [ use by another position can be possible, and ]. Invention according to claim 14 provides the pars intermedia material which can be pasted up near the monitor and its pars intermedia material of a pocket device with the attachment-and-detachment type attachment for monitors according to claim 12 which has a removable attached member by position relation. According to this invention, a pars intermedia material location can be determined, attachment and detachment of an attached member can

be finished exactly, and a monitor panel can be seen through opening of an attached member from distance of distinct vision.

[0013] Said attached member has elasticity and invention according to claim 15 offers the attachment-and-detachment type attachment for monitors according to claim 14 which can detach and attach said attached member and said pars intermedia material with this elasticity. According to this invention, a pars intermedia material location is determined and attachment and detachment of an attached member can be finished exactly.

[0014] Said attached member has a removable member with pars intermedia material with elasticity, and invention according to claim 16 offers the attachment-and-detachment type attachment for monitors according to claim 14 which can detach and attach said attached member and said pars intermedia material using this elasticity. According to this invention, a pars intermedia material location is determined and attachment and detachment of an attached member can be finished exactly.

[0015] Invention according to claim 17 offers the attachment-and-detachment type attachment for monitors of the pocket device which has a polarizing filter while being able to detach and attach it near the monitor of a pocket device. According to this invention, mitigation of the reflected light of a monitor panel can be finished exactly. Invention according to claim 18 offers further a magnifying lens and the attachment-and-detachment type attachment for monitors according to claim 17 which has protection-from-light structure. According to this invention, mitigation of the reflected light of a monitor panel can be finished exactly, and it can miniaturize.

[0016] Invention according to claim 19 offers the attachment-and-detachment type attachment for monitors according to claim 18 which said polarizing filter adjoins a magnifying lens between a magnifying lens and a pocket device, and is arranged. According to this invention, the effect of the reflected light of a polarizing filter can be mitigated, secular change of a polarizing filter can be lessened further, and a life can be prolonged.

[0017] Invention according to claim 19 offers the attachment-and-detachment type attachment for monitors according to claim 18 with said removable magnifying lens and polarizing filter. According to this invention, protection from light can be exactly finished at the time of a magnifying lens and polarizing filter wearing, and when a magnifying lens and a polarizing filter are removed, protection from light of a light [ obtuse angle / panel / monitor ] can be finished.

[0018]

[Embodiment of the Invention] Hereafter, the gestalt of implementation of this invention is explained. Drawing 1 shows the transverse-plane sectional view of the equipment device of the example 1 of this invention. 1 -- the attached member for monitors, and 2 -- a guide member and 3 -- a magnifying lens and 4 -- for pars

intermedia material and 7, as for a monitor panel and 9, a double faced adhesive tape and 8 are [ a deflecting plate and 5 / an attachment component and 6 / LCD and 10 ] digital cameras.

[0019] The minimum configuration which mitigates the phenomenon LCD9 screen stops being able to be visible easily due to outdoor daylight reflection of the monitor panel 8 in the above-mentioned configuration is a configuration the attached member 1 for monitors can detach and attach through the pars intermedia material 6 as an object for protection from light on the monitor panel 8 of a digital camera 10. The pars intermedia material 6 is pasted up by the double faced adhesive tape 7 of the example 1 of drawing 1 as an approach of attaching in the monitor panel 8. The condition that the configuration of the pars intermedia material 6 of an example 1 was attached in drawing 4 as a frame of a quadrilateral at the monitor panel 8 of a monitor side is shown. The pars intermedia material 6 can be removed from the monitor panel 8 to remove the pars intermedia material 6 by using a double faced adhesive tape 7 for adhesion on the monitor panel 8 of the pars intermedia material 6.

[0020] The pars intermedia material 6 and position relation are required for the attached member 1 for monitors which needs functions, such as the magnifying lens 3 later mentioned about the contents. The structure which can be detached and attached with the pars intermedia material 6 and the fitting section, using the elasticity of the attached member 1 for monitors as the approach can be considered. When using rubber for the attached member for monitors by this approach, in order to make exact further the predetermined location of the attached member 1 for monitors and to ensure attachment and detachment, it is made the structure which can be attached in the pars intermedia material 6 of plastics through the attachment component 5 of the plastics attached in the attached member 1 for monitors shown in the example 1 of drawing 1 . The fitting section of an attachment component 5 and the pars intermedia material 6 is shown below in respect of the pars intermedia material 6. In 6c, 6d of drawing 1 , and the vertical location fitting section, 6e, 6f of drawing 4 , and the right-and-left location fitting section show [ the back location fitting section ] 6g, 6h of drawing 4 , and the front location fitting section to 6i and 6j of drawing 4 , respectively. Since it is such structure, compared with fitting of the rubber of the aforementioned attached member 1 for monitors, and the plastics of the pars intermedia material 6, the slack of fitting of the plastics of an attachment component 5 and the plastics of the pars intermedia material 6 also decreases, and it becomes exact [ the location of the upper and lower sides before and after an attachment component 5 and the pars intermedia material 6, and right and left ]. Therefore, the predetermined location to the pars intermedia material 6 becomes exact, and the attached member 1 for monitors which has an attachment component 5 becomes trustworthy [ attachment and detachment ].

[0021] When it shades by the attached member 1 for monitors in order to mitigate the



reflected light of the monitor panel 8 and to make LCD9 screen legible, protection from light to the distance of distinct vision from the monitor panel 8 to the location of an eye is needed. For this reason, the attached member 1 for monitors becomes large, and it will compromise on suitable magnitude practical. Consequently, although protection from light of the outdoor daylight of the obtuse angle of a monitor panel can be performed, it will be influenced of the outdoor daylight of the acute angle of a monitor panel. In order to solve this, a magnifying lens 3 is formed in the attached member 1 for monitors. The interior of the guide member 2 is equipped with the magnifying lens 3 of the example 1 of drawing 1 , and it can detach and attach the guide member 2 to the attached member 1 for monitors. By this, between the monitor panels 8 can be shaded from the guide member 2, the monitor panel 8 can be seen, and the reflected light of the monitor panel 8 can be mitigated. Since it enabled it to detach and attach the guide member 2 from the attached member 1 for monitors furthermore, when a magnifying lens 3 and the guide member 2 remove from the attached member 1 for monitors, the monitor panel 8 can be seen through opening of the attached member for monitors from distance of distinct vision, and it is effective in protection from light of outdoor daylight [ obtuse angle / panel / monitor ].

[0022] There is a phenomenon which the reflected lights, such as an eye, make it hard to be visible [ with reflection of the monitor panel 8 ] in LCD9 screen. In order to improve this, a polarizing filter 4 is formed between an eye and the monitor panel 8. As shown in the example 1 of drawing 1 , a magnifying lens 3 is adjoined and equipped with the location of a polarizing filter 4 between a magnifying lens 3 and the monitor panel 8. Ultraviolet rays influential in secular change of a polarizing filter 4 by this are mitigated through a magnifying lens 3, since the reflected light of a polarizing filter adjoins the magnifying lens 3, the effect of the reflected light of a polarizing filter 4 of condensing decreases, and a life is prolonged. Furthermore a magnifying lens 3 is adjoined, since it is close to an eye, the reflected light of a polarizing filter 4 fades by the retina, effect is mitigated, and the effect of the reflected light from an eye etc. can be mitigated.

[0023] In order to make it small, it is made the structure which folds up the attached member 1 for monitors. Chip box \*\*\*\* 1 supporter 1b which supports bending, and in order to bend, it bends, and the attached member 1 for monitors shown in an example 1 can have and bend the 1f of the 2nd supporter of bending which became thin and which bends and supports part II 1e and bending part I 1c and 1d of bending idiosomas of the thickness which is easy to bend, in order [ which became thin ] to bend. The condition of having bent is shown in drawing 2 . Drawing 2 is a transverse-plane sectional view when folding up the attached member for monitors of the equipment device of the example 1 of this invention. Moreover, the example 1 is a square shape and drawing 3 shows the side elevation when folding up the attached member for monitors of the equipment device of the example 1 of this invention. 1g and 1h are the corners of a square shape configuration, and is made into round structure. For round

structure, it does not start at the time of \*\*\*\*, but an overload can be folded up at it. It can be made small according to such structure, and does not become obstructive in the condition of having attached. Furthermore, it is easy to treat when removing and carrying.

[0024] From the contents about the configuration of the pars intermedia material 6 mentioned above, drawing 4 showed the side elevation when removing the attached member for monitors of the example 1 of this invention, and 6 is pars intermedia material and it was said that it is the frame of a quadrilateral. The example 2 of another configuration of this pars intermedia material is shown in drawing 5. Drawing 5 is the example 2 of this invention, and pars intermedia material has become two pieces, A pars intermedia material 6A and B pars intermedia material 6B. A and B pars intermedia material 6A and 6B become small according to such structure. This structure pastes up one side of a double faced adhesive tape 7 on A and B pars intermedia material 6A and 6B. Fitting of A and the B pars intermedia material 6A and 6B is carried out to the attached member 1 for monitors, one side of another side of the double faced adhesive tape 7 pasted up on A and B pars intermedia material 6A and 6B can be pasted up on the monitor panel 8, and the location of A and B pars intermedia material 6A and 6B is correctly determined by the attached member 1 for monitors.

[0025] As the positioning approach of another A and B pars intermedia material 6A and 6B, it is not illustrated and also long sides, such as the criteria length of a member, for example, a guide member etc., etc. can be used as positioning of A and B pars intermedia material 6A and 6B. example 3 with this invention another [ drawing 6 ] -- it is -- 8 -- for a digital camera and 11, cover glass and 1A of A attached member for monitors and 6 are [ a monitor panel and 9 / LCD and 10 / pars intermedia material and 7 ] double faced adhesive tapes. An example 3 is another application of the attached member for monitors of an example 1, and is an example of protection in case the monitor panel 8 tends to be destroyed by external force. The pars intermedia material 6 is pasted up on the periphery with the reinforcement of the monitor panel 8. Protection of the monitor panel 8 is finished by forming cover glass 11 in A attached member 1A for monitors.

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## DESCRIPTION OF DRAWINGS

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### [Brief Description of the Drawings]

[Drawing 1] : The transverse-plane sectional view of the equipment device of an example 1

[Drawing 2] : The transverse-plane sectional view when folding up the attached member for monitors of the equipment device of an example 1

[Drawing 3] : The side elevation when folding up the attached member for monitors of the equipment device of an example 1

[Drawing 4] : The side elevation which removed the attached member for monitors by the equipment device of an example 1

[Drawing 5] : The side elevation which removed the attached member for monitors by the equipment device of an example 2

[Drawing 6] : The transverse-plane sectional view of the equipment device of an example 3

### [Description of Notations]

1 Attached Member for Monitors

2 Guide Member

3 Magnifying Lens

4 Deviation Filter

5 Attachment Component

6 Pars Intermedia Material

6A A pars intermedia material

6B B pars intermedia material

7 Double Faced Adhesive Tape

8 Monitor Panel

9 LCD

10 Digital Camera

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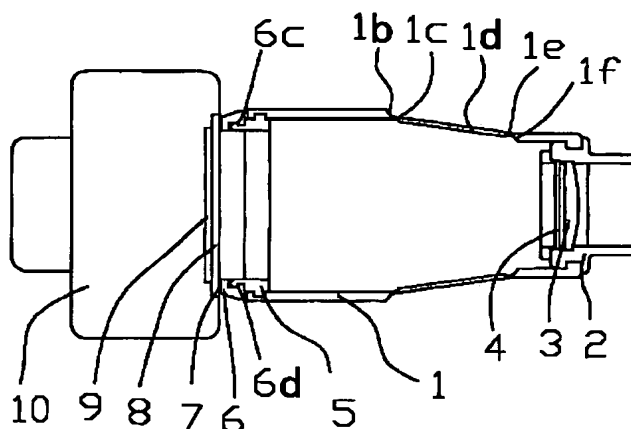
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(54) 【発明の名称】 携帯機器のモニター用着脱式付属装置

(57) 【要約】

【課題】 LCD画面周辺の外来光を軽減するための小型の装置を提供することにある。

【解決手段】 携帯機器のモニター近傍に接着可能な中間部材とその中間部材に所定の位置関係で着脱可能な遮光用のモニター用着脱式付属部材の構成をもって中間部材位置を決定し、モニター用着脱式付属部材の着脱を的確に成し遂げるようにした。さらに、拡大レンズ使用、折畳み構造によって小型化を得られるようにした。



**【特許請求の範囲】**

【請求項 1】携帯機器のモニター近傍に接着可能な中間部材とその中間部材に所定の位置関係で着脱可能な付属部材を有する携帯機器のモニター用着脱式付属装置。

【請求項 2】前記付属部材は弾性を持ち、この弾性により前記付属部材と前記中間部材とが着脱できる請求項 1 記載のモニター用着脱式付属装置。

【請求項 3】前記中間部材の携帯機器への接着部が両面テープである請求項 1 記載のモニター用着脱式付属装置。

【請求項 4】前記中間部材が複数の分割されている請求項 1 記載のモニター用着脱式付属装置。

【請求項 5】前記付属部材が中間部材接着時の位置決め部をもつ請求項 4 記載のモニター用着脱式付属装置。

【請求項 6】さらに前記付属部材に着脱できる部材を持ち、その部材が前記中間部材接着時の位置決め部をもつ請求項 4 記載のモニター用着脱式付属装置。

【請求項 7】前記付属部材は弾性のある中間部材との着脱部材を有し、この弾性を用いて前記付属部材と前記中間部材とが着脱できる請求項 4 記載のモニター用着脱式付属装置。

【請求項 8】前記付属部材が拡大レンズと遮光構造を有する請求項 1 記載のモニター用着脱式付属装置。

【請求項 9】前記拡大レンズが前記付属部材に着脱可能な請求項 8 記載のモニター用着脱式付属装置。

【請求項 10】前記付属部材は、前記拡大レンズが外された時に携帯機器のモニターパネルから明視の距離でモニターパネルが見える開口をもつ請求項 9 記載のモニター用着脱式付属装置。

【請求項 11】前記付属部材が保護ガラスを有する請求項 1 記載のモニター用着脱式付属装置。

【請求項 12】携帯機器のモニター近傍に着脱できるとともに、モニター面と所定の位置になる使用位置と折畳位置との間で移動可能である携帯機器のモニター用着脱式付属装置。

【請求項 13】折畳時にもモニター面に対して所定の位置関係になるよう設定されている請求項 12 記載のモニター用着脱式付属装置。

【請求項 14】携帯機器のモニター近傍に接着可能な中間部材とその中間部材に所定の位置関係で着脱可能な付属部材を有する請求項 12 記載のモニター用着脱式付属装置。

【請求項 15】前記付属部材は弾性を持ち、この弾性により前記付属部材と前記中間部材とが着脱できる請求項 14 記載のモニター用着脱式付属装置。

【請求項 16】前記付属部材は弾性のある中間部材との着脱部材を有し、この弾性を用いて前記付属部材と前記中間部材とが着脱できる請求項 14 記載のモニター用着脱式付属装置。

【請求項 17】携帯機器のモニター近傍に着脱できると

ともに偏光フィルタを有する携帯機器のモニター用着脱式付属装置。

【請求項 18】さらに、拡大レンズと遮光構造を有する請求項 17 記載のモニター用着脱式付属装置。

【請求項 19】前記偏光フィルタは拡大レンズと携帯機器の間において拡大レンズに隣接して配置されている請求項 18 記載のモニター用着脱式付属装置。

【請求項 20】前記拡大レンズ及び偏光フィルタが着脱可能な請求項 18 記載のモニター用着脱式付属装置。

**【発明の詳細な説明】****【0001】**

【発明が関連する技術分野】この発明は、デジタルカメラなどの携帯機器におけるモニターへの外来光に対する遮光に関する。

**【0002】**

【従来の技術】撮影レンズ及び固体撮像素子（CCD: Charge Coupled Device）を備えたデジタルカメラがあり、さらに、液晶表示装置（LCD: Liquid Crystal Display）による撮影時によるビューファインダ及び画像再生時におけるモニター兼用のLCD画面を備えたカメラがある。このようなカメラのLCD画面は、外来光により画面が見えにくくなることから、そのLCD画面周辺の外来光を軽減するための装置を設けるようにしている。

**【0003】**

【発明が解決しようとする課題】LCD画面周辺の外来光を軽減するための小型の装置を提供することにある。

**【0004】**

【課題を解決するための手段】上記の課題を解決するために、請求項 1 記載の発明は、携帯機器のモニター近傍に接着可能な中間部材とその中間部材に所定の位置関係で着脱可能な付属部材を有する携帯機器のモニター用着脱式付属装置を提供する。この発明によれば、中間部材位置が決定され、遮光用の付属部材の着脱を的確に成し遂げることができる。

【0005】請求項 2 記載の発明は、前記付属部材は弾性を持ち、この弾性により前記付属部材と前記中間部材とが着脱できる請求項 1 記載のモニター用着脱式付属装置を提供する。この発明によれば、中間部材位置が決定され、付属部材の着脱を的確に成し遂げることができる。

【0006】請求項 3 記載の発明は、前記中間部材の携帯機器への接着部が両面テープである請求項 1 記載のモニター用着脱式付属装置を提供する。この発明によれば、中間部材を外したい時に外すことができる。請求項 4 記載の発明は、前記中間部材が複数の分割されている請求項 1 記載のモニター用着脱式付属装置を提供する。この発明によれば、中間部材が小型化できる。

【0007】請求項 5 記載の発明は、前記付属部材が中間部材接着時の位置決め部をもつ請求項 4 記載のモニター用着脱式付属装置を提供する。この発明によれば、中

間部材の位置が決定され、付属部材の着脱を的確に成し遂げることができる。請求項 6 記載の発明は、さらに前記付属部材に着脱できる部材をもち、その部材が前記中間部材接着時の位置決め部をもつ請求項 4 記載のモニター用着脱式付属装置を提供する。この発明によれば、中間部材の位置が決定され、付属部材の着脱を的確に成し遂げることができる。

【0008】請求項 7 記載の発明は、前記付属部材は弾性のある中間部材との着脱部材を有し、この弾性を用いて前記付属部材と前記中間部材とが着脱できる請求項 4 記載のモニター用着脱式付属装置を提供する。この発明によれば、中間部材位置が決定され、付属部材の着脱を的確に成し遂げることができる。

【0009】請求項 8 記載の発明は、前記付属部材が拡大レンズと遮光構造を有する請求項 1 記載のモニター用着脱式付属装置を提供する。この発明によれば、遮光を的確に成し遂げることができ、装置を小型化することができる。請求項 9 記載の発明は、前記拡大レンズが前記付属部材に着脱可能な請求項 8 記載のモニター用着脱式付属装置を提供する。この発明によれば、拡大レンズ装着時に遮光を的確に成し遂げることができ、拡大レンズを外した時にモニターパネルに鈍角な光の遮光を成し遂げることができる。

【0010】請求項 10 記載の発明は、前記付属部材は、前記拡大レンズが外された時に携帯機器のモニターパネルから明視の距離でモニターパネルが見える開口をもつ請求項 9 記載のモニター用着脱式付属装置を提供する。この発明によれば、拡大レンズを外した時にモニターパネルに鈍角な光の遮光を成し遂げることができる。請求項 11 記載の発明は、前記付属部材が保護ガラスを有する請求項 1 記載のモニター用着脱式付属装置を提供する。この発明によれば、モニターパネルの外力に対する保護ができる。

【0011】請求項 12 記載の発明は、携帯機器のモニター近傍に着脱できるとともに、モニター面と所定の位置になる使用位置と折畳位置との間で移動可能である携帯機器のモニター用着脱式付属装置を提供する。この発明によれば、使用時に所定の位置で使用可能であり、折畳時に小型化できる。

【0012】請求項 13 記載の発明は、折畳時にもモニター面に対して所定の位置関係になるよう設定されている請求項 12 記載のモニター用着脱式付属装置を提供する。この発明によれば、使用時に所定の位置で使用可能であり、折畳時に別の所定の位置での使用ができ、かつ、小型化できる。請求項 14 記載の発明は、携帯機器のモニター近傍に接着可能な中間部材とその中間部材に所定の位置関係で着脱可能な付属部材を有する請求項 12 記載のモニター用着脱式付属装置を提供する。この発明によれば、中間部材位置が決定され、付属部材の着脱を的確に成し遂げることができ、明視の距離から付属部

材の開口部を通してモニターパネルを見ることができ

る。  
【0013】請求項 15 記載の発明は、前記付属部材は弾性を持ち、この弾性により前記付属部材と前記中間部材とが着脱できる請求項 14 記載のモニター用着脱式付属装置を提供する。この発明によれば、中間部材位置が決定され、付属部材の着脱を的確に成し遂げることができる。

【0014】請求項 16 記載の発明は、前記付属部材は弾性のある中間部材との着脱部材を有し、この弾性を用いて前記付属部材と前記中間部材とが着脱できる請求項 14 記載のモニター用着脱式付属装置を提供する。この発明によれば、中間部材位置が決定され、付属部材の着脱を的確に成し遂げることができる。

【0015】請求項 17 記載の発明は、携帯機器のモニター近傍に着脱できるとともに偏光フィルタを有する携帯機器のモニター用着脱式付属装置を提供する。この発明によれば、モニターパネルの反射光の軽減を的確に成し遂げることができる。請求項 18 記載の発明は、さらに、拡大レンズと遮光構造を有する請求項 17 記載のモニター用着脱式付属装置を提供する。この発明によれば、モニターパネルの反射光の軽減を的確に成し遂げることができ、小型化することができる。

【0016】請求項 19 記載の発明は、前記偏光フィルタは拡大レンズと携帯機器の間において拡大レンズに隣接して配置されている請求項 18 記載のモニター用着脱式付属装置を提供する。この発明によれば、偏光フィルタの反射光の影響を軽減することができ、さらに偏光フィルタの経年変化を少なくし、寿命を延ばすことができる。

【0017】請求項 19 記載の発明は、前記拡大レンズ及び偏光フィルタが着脱可能な請求項 18 記載のモニター用着脱式付属装置を提供する。この発明によれば、拡大レンズ及び偏光フィルタ装着時に遮光を的確に成し遂げることができ、拡大レンズ及び偏光フィルタを外した時にモニターパネルに鈍角な光の遮光を成し遂げることができる。

【0018】

【発明の実施の形態】以下、この発明の実施の形態について説明する。図 1 はこの発明の実施例 1 の装置機構の正面断面図を示す。1 はモニター用付属部材、2 は目当て部材、3 は拡大レンズ、4 は偏向板、5 は保持部材、6 は中間部材、7 は両面接着テープ、8 はモニターパネル、9 は LCD、10 はデジタルカメラである。

【0019】上記構成の中で、モニターパネル 8 の外光反射によって LCD 9 画面が見えにくくなる現象を軽減する最小構成はデジタルカメラ 10 のモニターパネル 8 に遮光用としてモニター用付属部材 1 が中間部材 6 を介して着脱できる構成である。中間部材 6 をモニターパネル 8 に取り付ける方法として図 1 の実施例 1 の両面接着テ

ープ7で接着する。図4に実施例1の中間部材6の形状が四辺形の枠としてモニター面のモニターパネル8に取り付けられた状態を示す。中間部材6のモニターパネル8への接着を両面接着テープ7を使用することにより中間部材6を取り外したい時、中間部材6をモニターパネル8から取り外すことができる。

【0020】内容について後述する拡大レンズ3などの機能を必要とするモニター用付属部材1は中間部材6と所定の位置関係が必要である。その方法として、モニター用付属部材1の弾性を用いて中間部材6と嵌合部をもって着脱できる構造が考えられる。この方法でモニター用付属部材1にゴムを利用する場合、さらにモニター用付属部材1の所定位置を正確にして着脱を確実にするために、図1の実施例1に示されるモニター用付属部材1に取り付けたプラスチックの保持部材5を介してプラスチックの中間部材6に取付できる構造にする。保持部材5と中間部材6の嵌合部を中間部材6の面で次に示す。後方位置嵌合部は図1の6cと6d、上下位置嵌合部はそれぞれ図4の6eと6f、左右位置嵌合部はそれぞれ図4の6gと6h、前方位置嵌合部は図4の6iと6jに示す。このような構造であるから、保持部材5のプラスチックと中間部材6のプラスチックの嵌合は前記のモニター用付属部材1のゴムと中間部材6のプラスチックの嵌合に比べて緩みも少なくなり、保持部材5と中間部材6の前後・上下・左右の位置が正確となる。従って、保持部材5を有するモニター用付属部材1は中間部材6に対する所定位置が正確となって着脱も確実となる。

【0021】モニターパネル8の反射光を軽減してLCD9画面を見易くするために遮光をモニター用付属部材1で実施すると、モニターパネル8から目の位置までの明視の距離までの遮光が必要となる。このためにモニター用付属部材1は大きくなり、実用的には適当な大きさで妥協することとなる。この結果、モニターパネルの鈍角の外光の遮光はできるが、モニターパネルの鋭角の外光の影響を受けることになる。これを解決するためにモニター用付属部材1に拡大レンズ3を設ける。図1の実施例1の拡大レンズ3は目当て部材2の内部に装着され、目当て部材2はモニター用付属部材1に着脱できる。これによって、目当て部材2からモニターパネル8間を遮光してモニターパネル8を見ることができ、モニターパネル8の反射光を軽減できる。さらに目当て部材2をモニター用付属部材1から着脱できるようにしたため、拡大レンズ3と目当て部材2がモニター用付属部材1から外した時に、明視の距離からモニター用付属部材1の開口部を通してモニターパネル8を見ることができ、モニターパネルに鈍角な外光の遮光に有効である。

【0022】目などの反射光がモニターパネル8の反射によりLCD9画面見えにくくする現象がある。これを改善するため、目とモニターパネル8間に偏光フィルタ4を設ける。偏光フィルタ4の位置は、図1の実施例

1に示すように拡大レンズ3とモニターパネル8間で拡大レンズ3に隣接して装着する。これにより偏光フィルタ4の経年変化に影響ある紫外線が拡大レンズ3を通して軽減され、偏光フィルタ4の反射光は偏光フィルタの反射光が拡大レンズ3に隣接しているため集光の影響が少なくなって寿命が延びる。さらに拡大レンズ3に隣接して目に近いために偏光フィルタ4の反射光が網膜でばやけて影響が軽減され、目などからの反射光の影響を軽減することができる。

【0023】小型にするためにモニター用付属部材1を折り畳む構造にする。実施例1に示すモニター用付属部材1は折り曲げを支持する折り曲第1支持部1b、曲げるために細くなった折り曲げ第1部1c、曲げ易い厚さの折り曲げ胴体部1d、曲げるために細くなった折り曲げ第2部1e、折り曲げを支持する折り曲げ第2支持部1fを持ち、折り曲げることができる。折り曲げた状態を図2に示す。図2はこの発明の実施例1の装置機構のモニター用付属部材を折り畳んだ時の正面断面図である。また、実施例1は角型になっており、図3はこの発明の実施例1の装置機構のモニター用付属部材を折り畳んだ時の側面図を示す。1gと1hは角型形状の角部であって、丸い構造にする。丸い構造のために折畳時に過負荷が掛からず折畳める。このような構造によって小型にすることができ、取り付けた状態で邪魔にならない。さらに、取り外して携帯する場合に扱い易い。

【0024】前述した中間部材6の形状についての内容で、図4はこの発明の実施例1のモニター用付属部材を外した時の側面図を示し、6は中間部材であって、四辺形の枠になっていることを述べた。この中間部材の別の形状の実施例2を図5に示す。図5はこの発明の実施例2であって、中間部材がA中間部材6A、B中間部材6Bの2個になっている。このような構造によりA、B中間部材6A、6Bは小型になる。この構造は両面接着テープ7の片面をA、B中間部材6A、6Bに接着し、モニター用付属部材1にA、B中間部材6A、6Bを嵌合させて、A、B中間部材6A、6Bに接着された両面接着テープ7の他方の片面をモニターパネル8に接着でき、A、B中間部材6A、6Bの位置はモニター用付属部材1によって正確に決定される。

【0025】別のA、B中間部材6A、6Bの位置決め方法としては、図示されていない他部材の基準長、例えば目当て部材などの長辺などをA、B中間部材6A、6Bの位置決めとして使用することができる。図6はこの発明の別の実施例3であって、8はモニターパネル、9はLCD、10はデジタルカメラ、11は保護ガラス、1Aはモニター用A付属部材、6は中間部材、7は両面接着テープである。実施例3は、実施例1のモニター用付属部材の別の用途であり、モニターパネル8が外力によって破壊され易い場合の保護の実施例である。中間部材6はモニターパネル8の強度がある周辺部に接着され

ている。モニター用A付属部材1Aに保護ガラス11を設けることによりモニターパネル8の保護が成し遂げられる。

【図面の簡単な説明】

【図1】：実施例1の装置機構の正面断面図

【図2】：実施例1の装置機構のモニター用付属部材を折り畳んだ時の正面断面図

【図3】：実施例1の装置機構のモニター用付属部材を折り畳んだ時の側面図

【図4】：実施例1の装置機構でモニター用付属部材を外した側面図

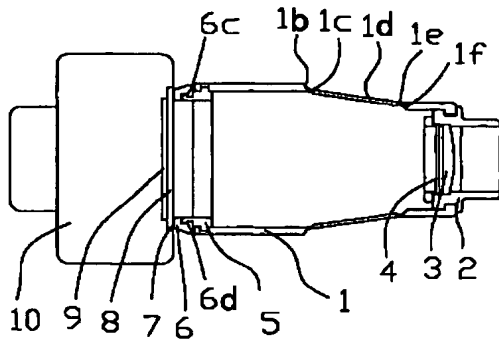
【図5】：実施例2の装置機構でモニター用付属部材を外した側面図

【図6】：実施例3の装置機構の正面断面図

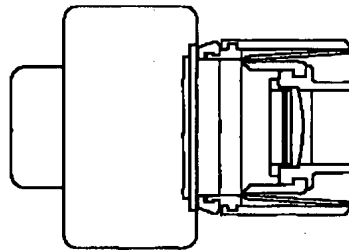
【符号の説明】

- 1 モニター用付属部材
- 2 目当て部材
- 3 拡大レンズ
- 4 偏向フィルタ
- 5 保持部材
- 6 中間部材
- 6A A中間部材
- 6B B中間部材
- 7 両面接着テープ
- 8 モニターパネル
- 9 LCD
- 10 デジタルカメラ

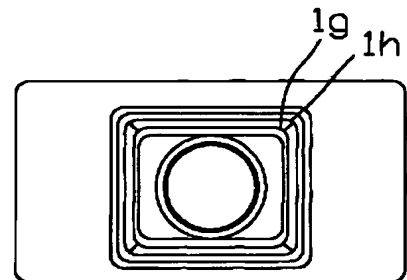
【図1】



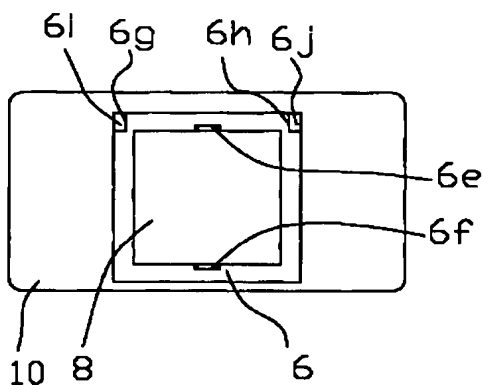
【図2】



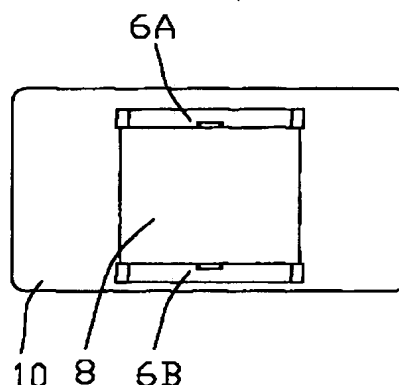
【図3】



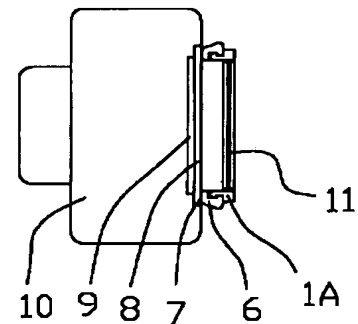
【図4】



【図5】



【図6】



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